PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

30/05

PCT

REC'D 26 JUL 2005
PCT

To:

see form PCT/ISA/220

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY
(PCT Rule 43*bis*.1)

Date of mailing
(day/month/year) see form PCT/ISA/210 (second sheet)

Applicant's or agent's file reference
see form PCT/ISA/220

FOR FURTHER ACTION
See paragraph 2 below

International application No.	International filing date *(day/month/year)*	Priority date *(day/month/year)*
PCT/CH2005/000094	18.02.2005	31.03.2004

International Patent Classification (IPC) or both national classification and IPC
G06F17/60

Applicant
SWISS REINSURANCE COMPANY

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43*bis*.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

2. **FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will usually be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA"). However, this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1*bis*(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of three months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

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WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/CH2005/000094

Box No. I Basis of the opinion

1. With regard to the **language**, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

   ☐ This opinion has been established on the basis of a translation from the original language into the following language , which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).

2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:

   a. type of material:

   ☐ a sequence listing

   ☐ table(s) related to the sequence listing

   b. format of material:

   ☐ in written format

   ☐ in computer readable form

   c. time of filing/furnishing:

   ☐ contained in the international application as filed.

   ☐ filed together with the international application in computer readable form.

   ☐ furnished subsequently to this Authority for the purposes of search.

3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.

4. Additional comments:

Box No. V Reasoned statement under Rule 43*bis*.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes:	Claims	1-24
	No:	Claims	
Inventive step (IS)	Yes:	Claims	
	No:	Claims	1-24
Industrial applicability (IA)	Yes:	Claims	1-24
	No:	Claims	

2. Citations and explanations

see separate sheet

Re Item V

Reasoned statement with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. The following documents (D1-D3) are referenced:

   D1: US-A-6 002 748 (LEICHNER JAMES L) 14 December 1999 (1999-12-14)
   D2: US-B-6 169 476 (FLANAGAN JOHN PATRICK) 2 January 2001 (2001-01-02)
   D3: WO 01/63534 A (EQE INTERNATIONAL INC) 30 August 2001 (2001-08-30)

2. The present set of claims does not fulfil the requirements of Article 33(3) PCT.

2.1 Claim 1 comprises a mixture of technical and non-technical features. The technical features are emphasized in bold:

computer-based (A) risk detection system comprising **a server (B) connected to a communication network (C),**

means for receiving on the server (D) risk information from geographically distributed **computerised data sources (E)** located in first geographical areas **via the communication network (C),** said risk information including an identification of a specific risk, a rating of said specific risk, and information for associating said specific risk with one of the first geographical areas,

means for storing (F) received risk information, the identification of the specific risk and the rating of the specific risk being assigned to one of the first geographical areas,

stored (F) correlation factors associated with geographical areas and/or **stored (F)** data about spreading patterns,

detection means (G) for detecting a specific risk emerging in one of the first geographical areas and spreading to one or more second geographical areas based on **stored (F)** risk information including the rating of the specific risk assigned to the one of the first geographical areas and based on the **stored (E)** correlation factors and/or data about spreading patterns, and

signalling means (H) for providing to an **interface (K)** output data depending on the detected emerging risk and the second geographical areas.

Claim 1 thus comprises the following technical features:

(i) a server (feature A, B above) with a
(ia) database (F),
(ib) a processor (A, G, H), and a
(ic) network interface (D, K) connected to
(ii) a network (C), and
(iii) additional computers connected to the network (E)

These technical features are commonplace features known in the field of computer technology. Such a system was part of the general state of the art at the priority date of the present application (2002), as is e.g. illustrated by documents D1 (fig. 1) or D2 (fig. 1, fig. 2).

The rest of the features of claim 1 define method steps to be carried out by this technical system:

risk detection method comprising

a) receiving risk information from geographically distributed data sources located in first geographical areas, said risk information including an identification of a specific risk, a rating of said specific risk, and information for associating said specific risk with one of the first geographical areas,

b) the identification of the specific risk and the rating of the specific risk being assigned to one of the first geographical areas,

c) correlation factors associated with geographical areas and/or data about spreading patterns,

d) detecting a specific risk emerging in one of the first geographical areas and spreading to one or more second geographical areas based on risk information including the rating of the specific risk assigned to the one of the first geographical areas and based on the correlation factors and/or data about spreading patterns, and

e) providing output data depending on the detected emerging risk and the second geographical areas.

These features define a method of supporting a business decision (e.g. "relate a

detected emerging risk to its relative impact on an insurance product"; see the description on page 7, line 28 - page 8, line 1).

Even when applied to technical systems or products, the method steps appear merely to be directed to determining e.g. an economic risk of such a technical system or product (like a building).

Therefore, the subject-matter of the present set of claims relates to the use of generic prior art for solving of a non-technical problem. An inventive step can not therefore be acknowledged (Articles 33(1) and (3) PCT).

The technical problem as identified in the description of the present invention is to reduce the amount of measurement equipment, which is solved by correlating measurement values of one area to a second geographical area.

It is at first to be noted that the definition of independent claim 1 does not preclude that measurements are carried out in every geographical area. It therefore appears that the present claim 1 does not comprise all the features which are essential for solving the technical problem identified in the description (Article 6 PCT).

Although a technical effect of reducing and simplifying the technical infrastructure might be achieved by predicting information for geographical areas for which no technical infrastructure has to be available, this effect would be a mere result of providing mathematical solutions for predicting risks in geographical areas for which no data is available in a purely non-technical field (like insurance). This kind of solutions would have to be provided by a non-technical specialist (e.g. insurance specialist) working in the non-technical field and, although technical effects might be observed, these effects would not confer a technical character to such solutions.

2.2 The subject-matter of claim 1 does also not involve an inventive step in relation to document D2 for the following reasons:

Document D2 discloses according to part of the features of claim 1, a

computer-based risk detection system (abstract) comprising a server ("13" in fig. 1) connected to a communication network (fig. 1),

means for receiving ("12" in fig. 1) on the server risk information from geographically distributed computerised data sources located in first geographical areas ("10A"-"10N" in fig. 1) via the communication network ("13" in fig. 1), said risk information including an identification of a specific risk ("disaster events" in column 9, line 64), and information for associating said specific risk with one of the first geographical areas ("current prevailing wind and weather conditions" in column 10, line 31-32),

means for storing ("network user database" in column 12, line 36-51; "collected disaster event archive data" in column 12, line 60-61) received risk information, the identification of the specific risk and the rating of the specific risk being assigned to one of the first geographical areas (the kind of data stored does not further define the storing means; moreover, once received, this data is implicitly stored temporally in order to enable further processing),

stored correlation factors associated with geographical areas and/or stored data about spreading patterns ("real time event archive" in column 12, line 36 - 67),

detection means ("21" in fig. 2) for detecting a specific risk emerging in one of the first geographical areas and spreading to one or more second geographical areas based on stored risk information and based on the stored correlation factors and/or data about spreading patterns ("real time event archive" in column 12, line 36 - 67), and

signalling means for providing to an interface output data depending on the detected emerging risk and the second geographical areas ("13A", "14" in fig. 2; column 13, line 1-7).

The difference between the subject-matter of claim 1 and the disclosure of document D2 is that "said risk information including a rating of said specific risk".

The "rating" information is merely cognitive data to be processed by the "detection means", and has no impact on the system of claim 1. Although it is recognised that the outcome of the calculation performed by the detection means might *potentially* be influenced by the rating information, i.e. that the outcome of the calculation would *potentially* identify different specific risks and/or different second geographical areas

if the rating information is taken into account, the subject-matter of claim 1 does not specify **in what way** the outcome of the calculation is influenced. A technical effect, if any, can thus not be identified.

Moreover, even if a different calculation result would be obtained as a result of using "rating" information, a technical impact would only be present if the data thus produced is technical and is used for solving a technical problem. This is not the case in the present situation, since this data may also be non-technical data (see also point 2.1 above).

Since the "rating" in the "risk information" achieves no technical effect in the system of claim 1, an objective technical problem can not be found. Hence, the claimed subject-matter does not satisfy at least the requirement for an inventive step in relation to document D2 (Articles 33(1) and (3) PCT).

2.3 Since the subject-matter of independent claims 9 and 17 corresponds entirely to the subject-matter of claim 1, an inventive step can also not be acknowledged for these claims for the same reasons as identified above in sections 2.1 and 2.2 (Articles 33(1) and (3) PCT).

3. Dependent claims 2-8, 10-16 and 18-24 either add non-technical features to the subject-matter of the independent claims or relate to trivial technical implementation details, obvious to the skilled person. An inventive step can thus also not be acknowledged for the subject-matter of dependent claims 2-8, 10-16 and 18-24 (Articles 33(1) and (3) PCT).

4. Should the applicant wish to file amendments, the following should be observed:

In amending the application care should be taken not to extend the content of the application beyond that of the application as filed, by the addition or deletion of subject-matter, in order to meet the requirements of Articles 19 (2) and 34(2) (b) PCT.

Moreover, in order to expedite the procedure the applicant is requested to indicate with his reply the locations in the application as originally filed of the passages

forming a basis for any amendments which are made. If the applicant regards it as appropriate, these indications should be submitted in handwritten form on a copy of the relevant parts of the application as filed.

The applicant is requested to file amendments by way of replacement pages. He should also take into account the requirements of Rule 66.8 PCT. In particular, fair copies of the amendments should be filed in triplicate.

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

30/53

PCT

To:

see form PCT/ISA/220

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY
(PCT Rule 43*bis*.1)

Date of mailing *(day/month/year)* see form PCT/ISA/210 (second sheet)	
Applicant's or agent's file reference see form PCT/ISA/220	**FOR FURTHER ACTION** See paragraph 2 below
International application No. PCT/CH2005/000094	International filing date *(day/month/year)* 18.02.2005
Priority date *(day/month/year)* 31.03.2004	
International Patent Classification (IPC) or both national classification and IPC G06F17/60	
Applicant SWISS REINSURANCE COMPANY	

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43*bis*.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

2. **FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will usually be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA"). However, this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1*bis*(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of three months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

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WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/CH2005/000094

Box No. I Basis of the opinion

1. With regard to the **language**, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

   ☐ This opinion has been established on the basis of a translation from the original language into the following language , which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).

2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:

   a. type of material:

   ☐ a sequence listing

   ☐ table(s) related to the sequence listing

   b. format of material:

   ☐ in written format

   ☐ in computer readable form

   c. time of filing/furnishing:

   ☐ contained in the international application as filed.

   ☐ filed together with the international application in computer readable form.

   ☐ furnished subsequently to this Authority for the purposes of search.

3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.

4. Additional comments:

Box No. V Reasoned statement under Rule 43*bis*.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes:	Claims	1-24
	No:	Claims	
Inventive step (IS)	Yes:	Claims	
	No:	Claims	1-24
Industrial applicability (IA)	Yes:	Claims	1-24
	No:	Claims	

2. Citations and explanations

see separate sheet

Re Item V

Reasoned statement with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. The following documents (D1-D3) are referenced:

   D1: US-A-6 002 748 (LEICHNER JAMES L) 14 December 1999 (1999-12-14)
   D2: US-B-6 169 476 (FLANAGAN JOHN PATRICK) 2 January 2001 (2001-01-02)
   D3: WO 01/63534 A (EQE INTERNATIONAL INC) 30 August 2001 (2001-08-30)

2. The present set of claims does not fulfil the requirements of Article 33(3) PCT.

2.1 Claim 1 comprises a mixture of technical and non-technical features. The technical features are emphasized in bold:

computer-based (A) risk detection system comprising **a server (B) connected to a communication network (C),**

means for receiving on the server (D) risk information from geographically distributed **computerised data sources (E)** located in first geographical areas **via the communication network (C)**, said risk information including an identification of a specific risk, a rating of said specific risk, and information for associating said specific risk with one of the first geographical areas,

means for storing (F) received risk information, the identification of the specific risk and the rating of the specific risk being assigned to one of the first geographical areas,

stored (F) correlation factors associated with geographical areas and/or **stored (F)** data about spreading patterns,

detection means (G) for detecting a specific risk emerging in one of the first geographical areas and spreading to one or more second geographical areas based on **stored (F)** risk information including the rating of the specific risk assigned to the one of the first geographical areas and based on the **stored (E)** correlation factors and/or data about spreading patterns, and

signalling means (H) for providing to an **interface (K)** output data depending on the detected emerging risk and the second geographical areas.

Claim 1 thus comprises the following technical features:

(i) a server (feature A, B above) with a
(ia) database (F),
(ib) a processor (A, G, H), and a
(ic) network interface (D, K) connected to
(ii) a network (C), and
(iii) additional computers connected to the network (E)

These technical features are commonplace features known in the field of computer technology. Such a system was part of the general state of the art at the priority date of the present application (2002), as is e.g. illustrated by documents D1 (fig. 1) or D2 (fig. 1, fig. 2).

The rest of the features of claim 1 define method steps to be carried out by this technical system:

risk detection method comprising

a) receiving risk information from geographically distributed data sources located in first geographical areas, said risk information including an identification of a specific risk, a rating of said specific risk, and information for associating said specific risk with one of the first geographical areas,

b) the identification of the specific risk and the rating of the specific risk being assigned to one of the first geographical areas,

c) correlation factors associated with geographical areas and/or data about spreading patterns,

d) detecting a specific risk emerging in one of the first geographical areas and spreading to one or more second geographical areas based on risk information including the rating of the specific risk assigned to the one of the first geographical areas and based on the correlation factors and/or data about spreading patterns, and

e) providing output data depending on the detected emerging risk and the second geographical areas.

These features define a method of supporting a business decision (e.g. "relate a

detected emerging risk to its relative impact on an insurance product"; see the description on page 7, line 28 - page 8, line 1).

Even when applied to technical systems or products, the method steps appear merely to be directed to determining e.g. an economic risk of such a technical system or product (like a building).

Therefore, the subject-matter of the present set of claims relates to the use of generic prior art for solving of a non-technical problem. An inventive step can not therefore be acknowledged (Articles 33(1) and (3) PCT).

The technical problem as identified in the description of the present invention is to reduce the amount of measurement equipment, which is solved by correlating measurement values of one area to a second geographical area.

It is at first to be noted that the definition of independent claim 1 does not preclude that measurements are carried out in every geographical area. It therefore appears that the present claim 1 does not comprise all the features which are essential for solving the technical problem identified in the description (Article 6 PCT).

Although a technical effect of reducing and simplifying the technical infrastructure might be achieved by predicting information for geographical areas for which no technical infrastructure has to be available, this effect would be a mere result of providing mathematical solutions for predicting risks in geographical areas for which no data is available in a purely non-technical field (like insurance). This kind of solutions would have to be provided by a non-technical specialist (e.g. insurance specialist) working in the non-technical field and, although technical effects might be observed, these effects would not confer a technical character to such solutions.

2.2 The subject-matter of claim 1 does also not involve an inventive step in relation to document D2 for the following reasons:

Document D2 discloses according to part of the features of claim 1, a

computer-based risk detection system (abstract) comprising a server ("13" in fig. 1) connected to a communication network (fig. 1),

means for receiving ("12" in fig. 1) on the server risk information from geographically distributed computerised data sources located in first geographical areas ("10A"-"10N" in fig. 1) via the communication network ("13" in fig. 1), said risk information including an identification of a specific risk ("disaster events" in column 9, line 64), and information for associating said specific risk with one of the first geographical areas ("current prevailing wind and weather conditions" in column 10, line 31-32),

means for storing ("network user database" in column 12, line 36-51; "collected disaster event archive data" in column 12, line 60-61) received risk information, the identification of the specific risk and the rating of the specific risk being assigned to one of the first geographical areas (the kind of data stored does not further define the storing means; moreover, once received, this data is implicitly stored temporally in order to enable further processing),

stored correlation factors associated with geographical areas and/or stored data about spreading patterns ("real time event archive" in column 12, line 36 - 67),

detection means ("21" in fig. 2) for detecting a specific risk emerging in one of the first geographical areas and spreading to one or more second geographical areas based on stored risk information and based on the stored correlation factors and/or data about spreading patterns ("real time event archive" in column 12, line 36 - 67), and

signalling means for providing to an interface output data depending on the detected emerging risk and the second geographical areas ("13A", "14" in fig. 2; column 13, line 1-7).

The difference between the subject-matter of claim 1 and the disclosure of document D2 is that "said risk information including a rating of said specific risk".

The "rating" information is merely cognitive data to be processed by the "detection means", and has no impact on the system of claim 1. Although it is recognised that the outcome of the calculation performed by the detection means might *potentially* be influenced by the rating information, i.e. that the outcome of the calculation would *potentially* identify different specific risks and/or different second geographical areas

if the rating information is taken into account, the subject-matter of claim 1 does not specify **in what way** the outcome of the calculation is influenced. A technical effect, if any, can thus not be identified.

Moreover, even if a different calculation result would be obtained as a result of using "rating" information, a technical impact would only be present if the data thus produced is technical and is used for solving a technical problem. This is not the case in the present situation, since this data may also be non-technical data (see also point 2.1 above).

Since the "rating" in the "risk information" achieves no technical effect in the system of claim 1, an objective technical problem can not be found. Hence, the claimed subject-matter does not satisfy at least the requirement for an inventive step in relation to document D2 (Articles 33(1) and (3) PCT).

2.3 Since the subject-matter of independent claims 9 and 17 corresponds entirely to the subject-matter of claim 1, an inventive step can also not be acknowledged for these claims for the same reasons as identified above in sections 2.1 and 2.2 (Articles 33(1) and (3) PCT).

3. Dependent claims 2-8, 10-16 and 18-24 either add non-technical features to the subject-matter of the independent claims or relate to trivial technical implementation details, obvious to the skilled person. An inventive step can thus also not be acknowledged for the subject-matter of dependent claims 2-8, 10-16 and 18-24 (Articles 33(1) and (3) PCT).

4. Should the applicant wish to file amendments, the following should be observed:

In amending the application care should be taken not to extend the content of the application beyond that of the application as filed, by the addition or deletion of subject-matter, in order to meet the requirements of Articles 19 (2) and 34(2) (b) PCT.

Moreover, in order to expedite the procedure the applicant is requested to indicate with his reply the locations in the application as originally filed of the passages

forming a basis for any amendments which are made. If the applicant regards it as appropriate, these indications should be submitted in handwritten form on a copy of the relevant parts of the application as filed.

The applicant is requested to file amendments by way of replacement pages. He should also take into account the requirements of Rule 66.8 PCT. In particular, fair copies of the amendments should be filed in triplicate.